

City issues



Teacher Resource



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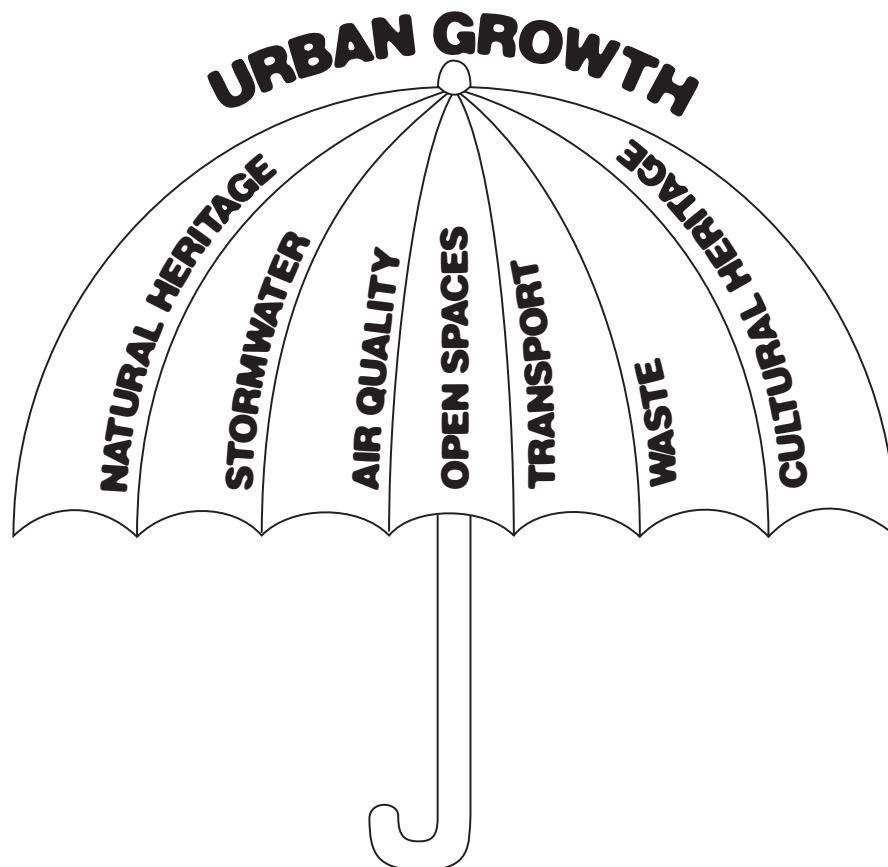
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# Teacher resource

## Overview of City Issues

City Issues is an integrated environmental education resource aimed at upper primary/intermediate age students (Level 3/4). It focuses on some of the significant interconnecting environmental issues that the expanding urban Auckland region is currently facing, namely:

- Transport
- Stormwater
- Air Quality
- Open Spaces
- Cultural Heritage
- Natural Heritage and Biodiversity
- Waste
- **Urban growth** is the 'umbrella' that connects all these issues.



# City Issues and Environmental Education

The purpose of this resource is to increase awareness and understanding of the issues, for students to take responsibility to modify their behaviour, and to take action so that a sustainable environment may be achieved. Hence the aims of environmental education are of paramount importance in this resource, namely for students to develop:

- **awareness and sensitivity** to the environment and related issues
- **knowledge and understanding** of the environment and the impact of people on it
- **attitudes and values** that reflect feelings of concern for the environment
- **skills** involved in identifying, investigating and problem solving associated with the environmental issues
- a sense of responsibility through **participation and action** as individuals, or members of groups, whanau, or iwi, in addressing environmental issues.

(Ref. Guidelines for Environmental Education in New Zealand Schools. p.9).

# Included in the resource:

## ① Resource booklets

City Issues Teacher Resource  
Urban Growth  
Transport  
Stormwater  
Air Quality  
Open Spaces  
Cultural Heritage  
Natural Heritage and Biodiversity  
Waste

Each booklet includes a Teacher Information section and self-directed Student Activities.

## ② Video 'City Issues'

## ③ Supporting resources

- Brochures and posters - these are listed in the 'Resources' section in the teacher information of each book
- Photo sets
  - a) 4 Air Quality
  - b) 6 Transport

## ④ Curriculum coverage

- Major curriculum focus:
  - Social Studies
  - Science
- Other curriculum areas are also covered but to a lesser extent
- Each Teacher Information section contains an outline of Curriculum Achievement Objectives and suggested Learning Outcomes.

It should be noted that not all student activities are linked to specific achievement objectives but all are designed to enhance student's learning as they explore themes related to city issues.

- Although learning outcomes have been suggested for each activity, teachers may write, or select, their own learning outcomes based on student's needs.
- Some assessment activities have been included in the resource. Assessment requirements will vary from class to class depending on learning outcomes selected by individual teachers.

## **5 Using the resource**

- 'City Issues' is a vast topic and it would take a significant amount of time and energy to cover each particular issue in depth. Forward planning will be essential in order to allow for adequate time to cover issues and to ensure that students have sufficient resources at their disposal.
- Teachers are not expected to cover all issues and may wish to select issues of particular interest. It must be noted however, that there is a strong linkage between issues and the exploration of one may lead naturally onto another, e.g. Urban Growth and Transport has very strong links to Air Quality and Stormwater.

## **6 Suggestions for activity use:**

- Use initiating activities to gather before-views and to 'hook' students into a particular issue. Students could then formulate their own questions for independent research and investigation. Additional activities within the resource could then be used to supplement /enhance individual work, possibly in a learning centre format.
- Focus on a curriculum area and select activities accordingly.
- Divide the class into groups and assign a particular issue to each group, which they will investigate and present to the rest of the class.
- Select activities to meet students interest.
- Select a variety of activities and present for student's independent work. Activities can be rotated.

# City Issues video

This video is in 2 sections.

**Section one** runs continuously outlining issues that the Auckland region is currently facing: (Duration: 22 minutes). The order is as follows:

- Urban Growth
- Transport
- Stormwater
- Air Quality
- Open Spaces
- Heritage (Cultural)
- Biodiversity (and Natural Heritage)
- Waste

**Section two** 'replays' each section separately followed by a 1 minute screen of focus questions at the end of each issue.

## Suggestions for use

### Before viewing

1. Define the "Auckland region".
2. Discuss: What is an issue? (Brainstorm ideas).

### Viewing the video

- a. Play continuously to 'hook' the students.
- b. Segment by segment (issue by issue).
- c. Use follow-up focus questions, which are listed on the video.

### Urban Growth

Is there a right size for a city?

How much more can Auckland grow?

Has the design of houses changed in recent years?

## **Transport**

Why is transport a big issue in the Auckland region?

How can we persuade more people to use public transport?

How can we reduce the amount of traffic on our roads? - Teleworking?

- Living closer to work?

## **Stormwater**

Where does stormwater end up?

What effect does polluted water have on the sea and the creatures who live in it?

What can we do to stop the pollution?

## **Air Quality**

Why is air quality so important?

What is the major cause of air pollution in Auckland?

What can we do to improve air quality?

## **Open Spaces**

Why do we need open spaces?

Who is responsible for making sure we have enough open spaces?

Where are your local open spaces?

What can you do to improve/protect/care for your open spaces?

## **Heritage (Cultural)**

What is heritage all about?

What are some of Auckland's special heritage features?

Why should we protect our heritage?

## **Biodiversity (and Natural Heritage)**

What is biodiversity?

Why is it so important?

What can you do to protect our biodiversity?

## **Waste**

Where does all our rubbish go?

What are the consequences of producing so much rubbish?

What can you do to reduce the amount of rubbish?

# Teaching and learning models

- ① **Environmental Action Plan**
- ② **Research Model**
- ③ **Inquiry Model A**
- ④ **Inquiry Model B**

Most teachers will be familiar with the Research and Inquiry models. The Environmental Action Plan, however, may need further explanation.

Environmental Action Plan describes an action-orientated approach to environmental education. The plan included in this resource has been developed from the model outlined in Guidelines for Environmental Education in New Zealand Schools, p.74, Ministry of Education 1999. This is currently being adopted as a preferred model in the Ministry of Education professional development workshops for Environmental Education.

A key component of this model is that it is student initiated. Students identify the issue and complete the action plan. It may be co-constructed with the teacher.

# Environmental Action Plan - example 1

What's the issue?  
Stormwater pollution

What's our goal?  
To reduce pollution in local stream / beach

## What skills will we need?

Monitoring the drain sites on the beach/stream on a regular basis  
Information gathering on the effects of pollutants  
Communication of information  
Survey of different pollutants found  
Reporting back/recording  
Applying biological knowledge (what animals need for survival)  
Research

## Who could influence the decision?

Local Council  
Regional Council pollution team

## Who makes the final decision?

Local Council  
Regional Council pollution team

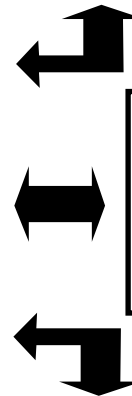
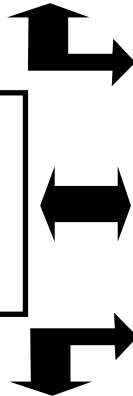


## Evaluation of action

## ACTION What are we going to do?

Clean up local stream/beach  
Monitor local stream/beach  
Stencil stormwater signs on drains

## Evaluation of plan



## How will we find out what people think and feel about the issue?

Survey local people - telephone, fax, personal interviews at local mall  
Survey parents  
Talk-back radio

## How can we make people more aware of this issue?

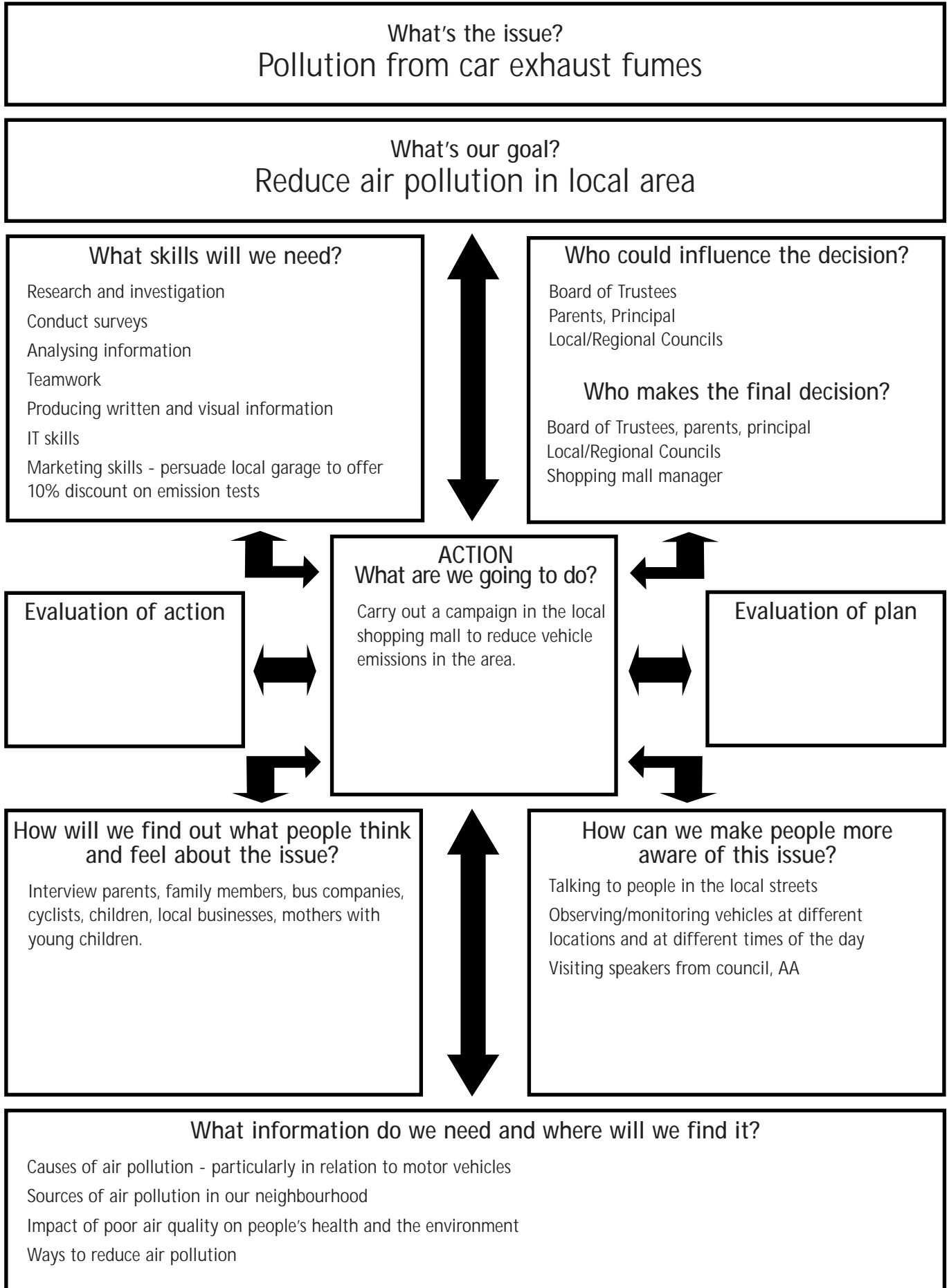
Displays in the local library/shopping mall  
Articles in the local newspaper  
Letters home to parents  
Letters to local industries/businesses



## What information do we need and where will we find it?

Find out if local/regional council have information on monitoring streams  
What properties back onto the stream?  
Monitoring the local stream/beach every day  
Find out what constitutes a healthy stream (e.g. what should live there, turbidity etc)

# Environmental Action Plan - example 2



# Environmental Action Plan - example 3

What's the issue?  
Loss of biodiversity in New Zealand

What's our goal?  
Create an area of school grounds that will attract native birds and insects

## What skills will we need?

Communication skills  
Research - the plants that are best for native birds  
Record and monitor stages of the survival rate of plant species  
Analyse information  
Establishing an area for native birds and insects  
Marketing - getting donations etc.

## Who could influence the decision?

Board of Trustees  
School Principal  
Grounds person

## Who makes the final decision?

Board of Trustees, groundsperson  
Person who has plans of drains, electricity supply  
Parents - for support and help  
Drawing up a planting plan - who will help with this?

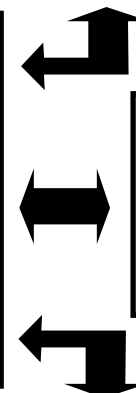
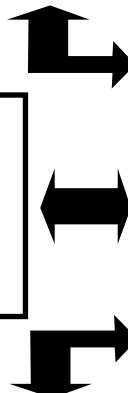


## Evaluation of action

## ACTION What are we going to do?

Create an area of school grounds that will attract native birds and insects.

## Evaluation of plan



## How will we find out what people think and feel about the issue?

Survey local residents/school pupils to find out how they feel about such an area  
Invite local residents to talk about any issues they have with creating such an area (eg. local cats may need to be kept away)  
Talk to teachers about safety/supervision of the area  
Talk to Groundsperson about the ongoing care of the area

## How can we make people more aware of this issue?

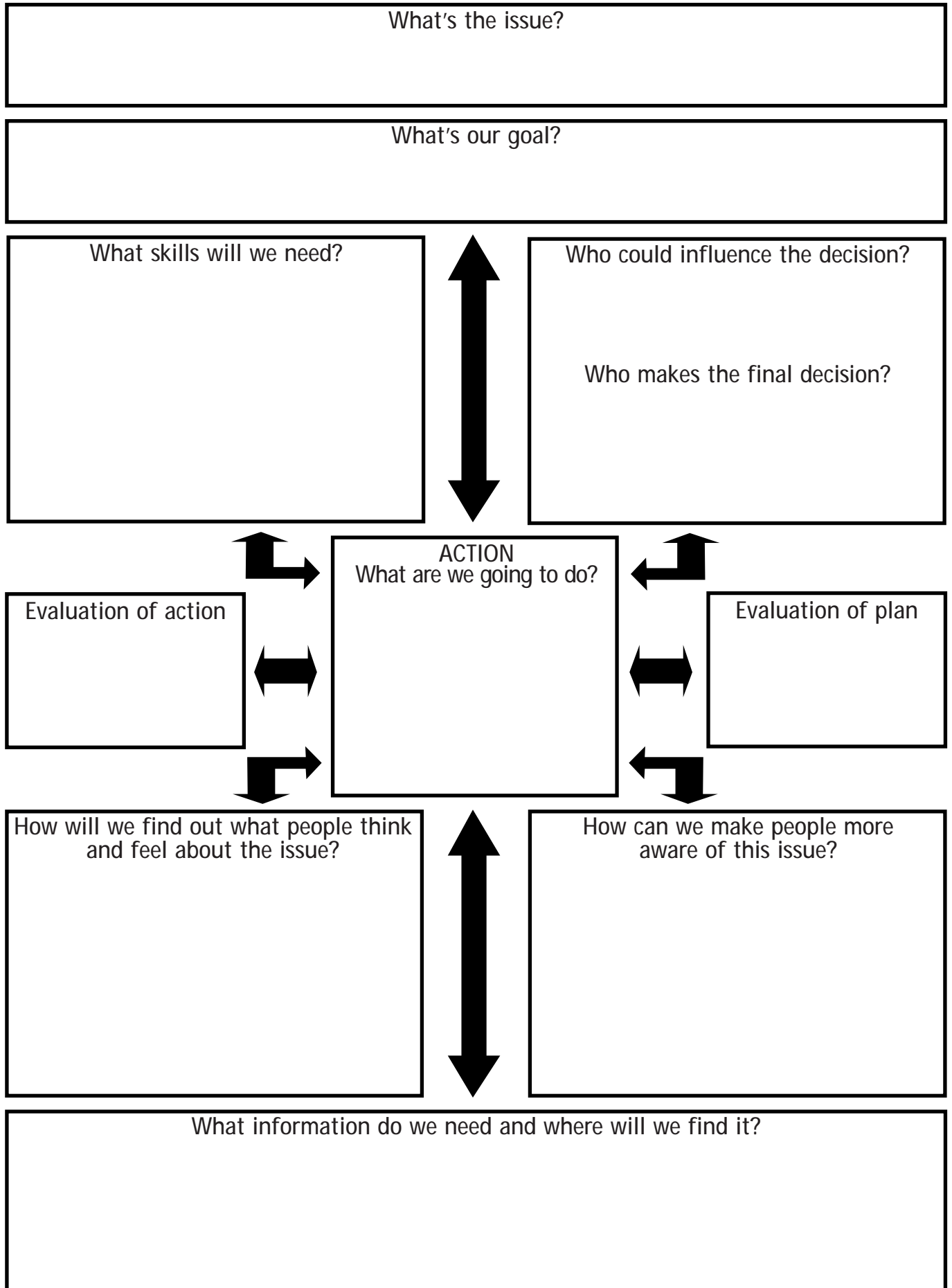
Visit native bush  
Invite a native bird or natural heritage "expert" to speak to the class  
Explore leaf litter beneath bush area  
Search for minibeasts already in the school ground



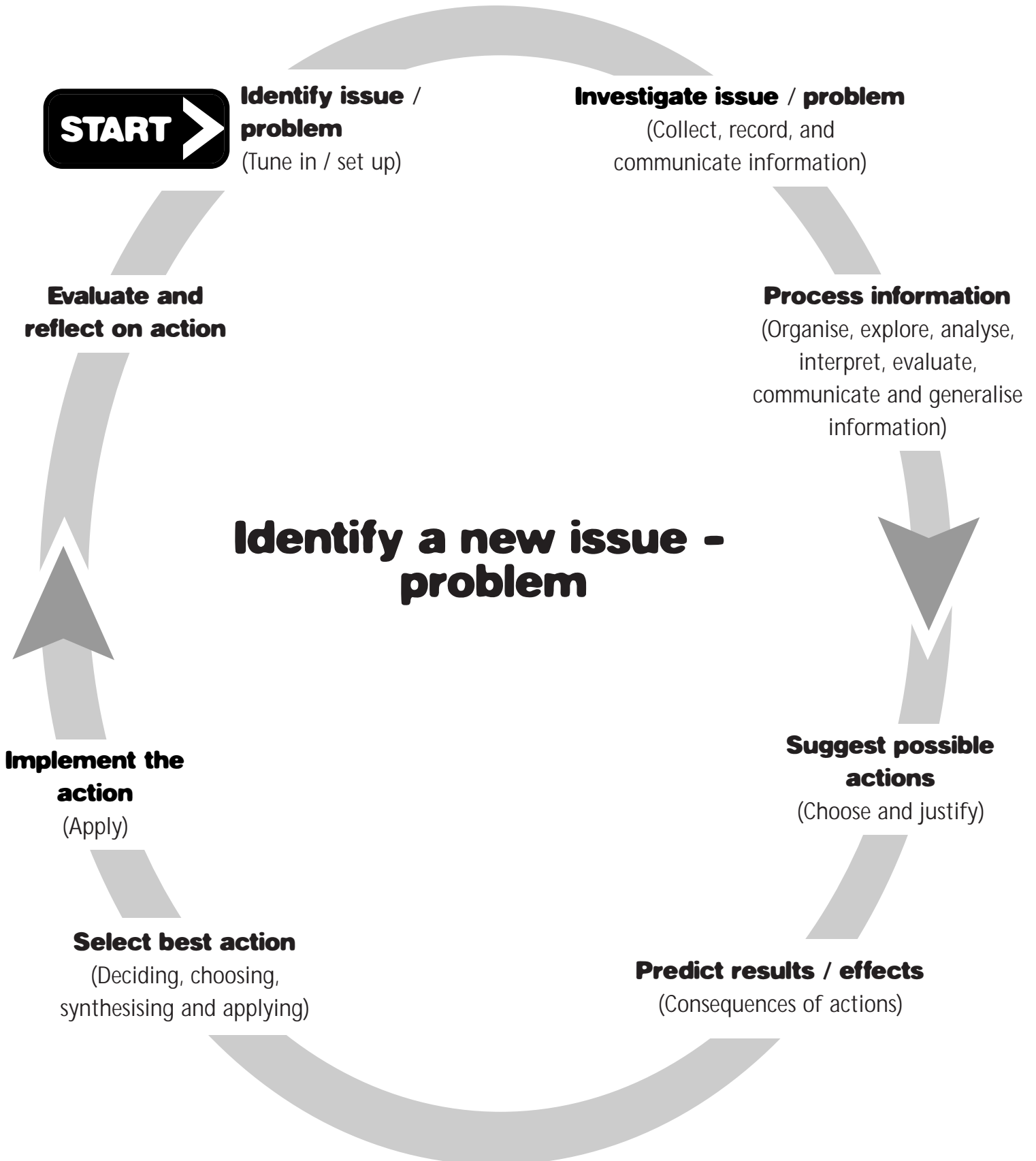
## What information do we need and where will we find it?

Research - which plants are best for native birds  
- what habitats are required for minibeasts etc  
- what conditions do native trees/plants need to grow

# Environmental Action Planner



# A research model



# Inquiry model - A

## **Tune in**

- Tune in to the issue

## **Explore**

- Explore gaps in knowledge and frame questions
- Explore beliefs about the issue, how the issue affects people and students' attitudes and values

## **Look**

- Look more closely at the issue

## **Sort**

- Organise, compare and contrast, categorise the information researched

## **Test**

- Test to see whether original questions have been answered
- Draw conclusions from the evidence

## **Act**

- Design and implement an action plan

## **Reflect**

- Reflect on the effectiveness of the action plan

# Inquiry model - B

## What's the problem ?

Step by step...

Write out the issue (problem).

Issue

Possible Solutions

Write down ideas for solving the issue.

Possible solutions

--	--	--

Possible Outcomes

Write down what you think might happen if you try your solution.

Possible outcomes

--	--	--

People's Feelings

Write down how people might feel about the solution.

People's feelings

--	--	--

Choose a solution you think would work.

Our group / class thinks the best solution would be...

# Assessment

Some assessment activities have been included in the resource. Assessment requirements will vary from class to class depending on learning outcomes selected by individual teachers.

The following generic evaluation activities may be of some help:

- Student evaluation sheet
- Self evaluation
- Topic evaluation sheet
- Check out group work
- Take a look at other peoples work
- Work plan

# Student evaluation sheet

My Name is: \_\_\_\_\_ Date: \_\_\_\_\_

In this study I enjoyed learning about: \_\_\_\_\_

---

The most interesting fact I learned was:


I would like to find out more about:


Three new words and their meanings  
I have learned are:


Some of the resources I used are:


# Self evaluation

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Achievements - things I did in this topic that I am proud of are: \_\_\_\_\_

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Attitude to work	Sometimes	Often	Always
I planned and used my time well			
I stayed on task and avoided distractions			
I completed work within the time allowed			
I took care with presentation			

Co-operating with others	Sometimes	Often	Always
I gave interesting ideas to the group			
I encouraged and supported others			
I asked useful questions			
I considered different ideas			

**Reflection on learning** (Think about your learning, new ideas, questions you asked, solutions you found, goals you met etc)

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Student signature \_\_\_\_\_

Teacher signature \_\_\_\_\_

# Topic evaluation sheet

Topic: \_\_\_\_\_

My name: \_\_\_\_\_ Date: \_\_\_\_\_

The main things I did were...	
The main things I learnt were...	
The things I still need help with are...	
Next time I would like to...	

# Check out group work

Name: \_\_\_\_\_

Who was in the group? \_\_\_\_\_

Did you work well together? Circle ONE word

**Yes**

**Usually**

**Sometimes**

**No**

Why? (Explain your answer) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

How much of the task did you complete?

**All**

**Almost all**

**Part**

**None**

Which part did you enjoy the most \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Which part did you enjoy the least? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

What did you learn from this activity? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Take a look at other people's work

Work looked at	What I liked about this work	Ways I think this work could be improved

# Work plan

Name: \_\_\_\_\_

Date work started: \_\_\_\_\_ Date work finished: \_\_\_\_\_

Main theme / topic: \_\_\_\_\_

\_\_\_\_\_

My main question is: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Other questions I need to ask are: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Some key (important) words I need to think about are: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Things I plan to do to find the answer: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

I can get information and help from: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(Possible sources - people, photographs, written material, computer / electronic media etc).

My work will be presented to: \_\_\_\_\_

\_\_\_\_\_

I am going to present / share my work in the following ways: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Personal goals I have for this study are: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Work plan seen by:

a) Pupil \_\_\_\_\_ b) Teacher \_\_\_\_\_

Comments / suggestions given: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

This illustration is important to my study - it shows:

Teacher's comments \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Strategies to encourage collaborative learning

**Bus stop** Students in small groups move around a series of “stations” where they respond to a question, statement or photograph. When “Bus Stop” is called, groups move clockwise to the next stop. Ideas can’t be repeated, so it gets harder for everyone and therefore encourages lateral thinking. At the last stop groups can summarise and report back.

**Round robin** In small groups - each person is given a piece of paper with a question/statement written at the top. Students respond, fold what they have written out of sight and pass to the person on their right. When all questions/statements have been circulated, unfold and discuss. Students can also share with other groups.

## Three step interview

A interviews B, B interviews A

A introduces B to another pair commenting on something learnt about B in the interview and the others follow.

**Brainstorming** Encourage students to collect as many ideas as possible and write on small pieces of paper. Call out words as written - no discussion or value judgements. Ideas can be sorted and labelled, or turned into a concept map.

**Post box** Place questions/statements around the room with a box under or next to the questions. Students write their response and post in the box. Groups can be given a box each to read, summarise and report back (good for sensitive topics).

## Ranking

Students given nine statements which they rank as follows:

Once a ranking is agreed to, groups can join to share and justify.

```

1
2 3
4 5 6
7 8
9

```

**Jigsaw** An excellent strategy to explore different points of view, either through discussion or reading different texts. Students are numbered 1,2,3,4. All those numbered 1 get together and become “experts” on their topic. The others do the same. Finally, mixed groups are formed to share information.

# De Bono's six thinking hats:

## examples of questions

Colour of Hat	Thinking	Example
white	facts/figures	What do we know about public transport?
red	feelings and emotions	How do we feel about public transport?
black	judging/deciding	What are the problems with public transport?
yellow	positive thinking	What are the advantages of public transport?
green	creative thinking	How could we change public transport?
blue	thinking	Make a plan - what next?

## Plus, minus, interesting

Students are given a question/statement to consider...

e.g. What if cars were not allowed on the streets during the week?

<b>PLUS</b> All the positive features	<b>MINUS</b> All the minus features	<b>INTERESTING</b> Interesting ideas
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# Reading for information

The non-fiction texts that students will be using for information will make many and varied demands on them. The following strategies will help them make connections between what they know already and the information and ideas they are trying to locate, organise and present. Different texts make different demands on readers and an appropriate strategy can help them make sense of a text independently.

## Prior knowledge chart

Before reading students list everything they know about a topic on a chart and on the other side, list what they still want to know. Gives focus to reading.

## Timeline

Useful when readers have to clarify and simplify information to show sequence, order and growth. Discuss whether to use horizontal or vertical timeline and intervals.

## Compare

Helps readers locate, synthesise and summarise information in a way that shows what is the same and what is different. A venn diagram is the layout students are most familiar with.

## Problem and solution

Encourages readers to identify a problem and brainstorm possible solutions before considering the effects.

# Different presentations for different purposes

## Visual

plays	role play	advertisements	puppets	timelines
cartoons	photographs	flow diagrams	brochure	illustration
video	graph	map	poster	stamps badge
comic strip	storyboard			

## Written

recount	report	poem	narrative	advertisement
procedural text	diary	letter	interview	list
newspaper	autobiography	explanation	description	quiz

## Oral

song	video	interview	radio programme	speech
rap	discussion	debate	talk	question
drama	role play	theatre sports	recite	

# The interview

## a) What do you want to find out?

Who is the best person to talk to? Contact them and make a time and place for the interview.

## b) Now plan your questions

Brainstorm as many questions as you can and jot them down.



Danger! Don't ask questions which can be answered by yes or no.

Use - when, why, where, how, which, what and who.

Choose your 10 most interesting questions - check them and put them in order of importance.



Who is going to ask the questions?

How are you going to record the answers?

Ask permission to use a tape recorder.



## c) What will you do with the information now?

# Other resources

**Windows by Jeannie Baker:** Wordless picture book showing increasing pace of environmental destruction. The story is told by looking through a window over 24 years.

**Dinosaurs and all the Rubbish by Michael Foreman:** Man sets out for a distant star and the dinosaurs tidy up the barren waste left behind. Man was only allowed back when he agreed the Earth should be shared and enjoyed by everyone.

**The Story of Rosy Dock by Jeannie Baker:** Picture book which uses collage to show the impact of plants and animals brought by the European settlers to the Australian desert.

**Brother Eagle, Sister Sky illustrated by Susan Jeffers:** Chief Seattle's words to the US government when they wanted to buy his people's land - a compelling message.

**Rescue Mission - Planet Earth:** This book is written by children and is their study of Agenda 21 - the document resulting from the 1992 Earth Summit.

**The World Jack Built by Ruth Brown:** Powerful picture book about the destruction of the environment as seen through the eyes of a black cat. Country/city contrast.

**Cry Me A River by Rodney McRae:** Sophisticated picture book showing the river flowing down to the sea picking up pesticides and waste.

**Chen Li and the Water Spirit by Anthony Holcroft:** Chen Li is a man who loves walking in the hills. One day the River Spirit comes to him with a request to put right all the damage man has done in the valley.

**The Tomorrow City by Monica Hughes:** Story for older readers describing how four children beat the computer who is making devastating decisions about their city.

**Land Slide by Colin Theile:** A peaceful rural town faces an invasion by big business.

**The Lorax by Dr Seuss:** An environmental tale about Once-Lee who ruined a beautiful paradise despite the warning from the Lorax.

# School journals

**The power of rubbish** by Pat Quinn 1993 3:2

A short article that looks at the ways of using methane from landfills.

**Symphony under the stars** by Cynthia Todd Maguire 1995 3:3

An interview with Sarah McCracken who played the violin at the Symphony Under the Stars concert in the Auckland Domain.

**Species in danger** 1990 3:2

A group of Form 1 and 2 students at a South Wellington Intermediate school talk about the work they have done to help people understand about endangered species.

**Blue fish on the pavement** by Pat Quinn 1992 2:2

The children at Westmere School stenciled blue fish on the pavement to inform the public about stormwater drains and the problems caused by tipping waste into gutters and drains.

**Saving the highgate lime tree** by Diana Noonan 1994 3:2

Students from Room 1 and 2 at Kaikorai School near Dunedin talk about the work they did to try and save a special tree growing in their school grounds.

**How we came to have town belts** by Hardwicke Knight 1983 3:1

Explains how town belts were created in Wellington and Dunedin in response to the overcrowded cities people had left behind in England.

**Don't waste water** by Jill MacGregor 1999 3:3

A family in Samoa show how careful they are never to waste water.

**Nga Puaawai whanau says "Yes"** by Diana Noonan 1998 3:3

Students at Wilford School work with the Upper Hutt City Council to develop a new playground and picnic area in the Hikoikoi Reserve.

**The greenhouse effect - Just hot air** by Linda Mitchell 1994 3:1

An article explaining the 'greenhouse effect' which gives suggestions everyone could take to reduce global warming.

**The motorway debate** by Pat Quinn 1992 4:1

Gives both sides for and against extending the Wellington motorway.

- Where my ancestors walked**                      **by Ray Ahipene-Mercer**                      **1990 4:2**  
Ray Ahipene-Mercer walks around Wellington harbour and reflects on the history of the Mirimar Isthmus and what has happened to the land and the sea.
- Fire call-out**    **by Pat Quinn**  
An interview with Brendan a volunteer firefighter.
- Tales of a street**                                      **by S Bennington**                                      **1982 4:3**  
Shows the many changes that have happened to Wellington's Lambton Quay.
- City ranger**    **by J Thompson**                                      **1985 2:1**  
A ranger talks about keeping stray dogs off Dunedin streets.
- Cleaning windows**                                      **by J Lynch**                                      **1986 3:1**  
The problems faced by a window cleaner in Wellington.
- The day the eagle circled**                      **by John Parker**                                      **1991 3:2**  
The police helicopter chases a burglar.